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EXAMINER	
WORKU, NEGUSSIE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/065,611	LEE, CHEN-HO	
	Examiner	Art Unit	
	Negussie Worku	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-15 and 17-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-15 and 17-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 November 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the amendment filed on 07/05/07, in which, claims 1-7, 9-15 and 17-34 are pending, and claims 8 and 16 have been cancelled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/15/07, has been entered.

Response to the arguments

3. Applicant's arguments, filed 07/05/07, based on amended limitation, with respect to the rejection(s) of claim(s) 1-7 and 9-15 under U.S.C 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, This Office action made non- final.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-7, 9-15 and 17-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinsky et al. (USP 6285398), in view of Makino (USP 4,786,933).

With respect to claim 1, Shinsky (398) teaches a method of transferring image information from a scanning apparatus (a method of scanning image by scanner 10 of fig 1, and transferring to host computer 20 of fig 3), the method comprising:

Adjusting a period of the shift signal based at least in part on a speed of reading the pixel data of the scan line by the computer, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and analog digital converter circuit 16 of fig 1), wherein data for all of the transfer signal, scan line during the period of the transfer signal, (CPU 42 of fig 3, via interface 200 of fig 3, communicate with image scanner 100 of fig 3, where a data is transferred between the two devices [scanner and the host] over a transfer interface port, so as there is a transfer signal, col.1, lines 36-40).

Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction

device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device (CCD image sensor 5 of fig 2) in the scanning apparatus, (image signal forming 12 of fig 1) the image extraction device (CCD image sensor 5 of fig 2) coupled to a computer (micro processor 10 of fig 2, is coupled to image sensor 5, col.2, lines 20-30); transmitting data for each pixel of a scan line to the computer via a shift signal (shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shit register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of

Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 2, Shinsky teaches the method (fig 3), further comprising adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 3, Shinsky teaches the method (fig 3), further comprising adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 4, Shinsky teaches the method (fig 3), the method according to claim 1, wherein the period of the transfer signal comprises a constant period of time, (brightness and contrast controller 322 of fig 4A).

With respect to claim54, Shinsky teaches the method (fig 3) wherein the exposure time is variable (brightness and contrast controller 322 of fig 4A).

With respect to claim 6, Shinsky teaches the method (fig 3) wherein the dumping (shifting) signal is enabled at a high level, (the level of the brightness and contrast of the image has been controlled by controller 322 of fig 4A).

With respect to claim 7, Shinsky teaches the method (fig 3), wherein the image extraction device (100 of fig 3) includes a charge-coupled device (CCD 12 of fig 3).

With respect to claim 9, a method of transferring image information from a scanning apparatus (a camera 10 of fig 1, has no buffer or any memory, see fig 1), the method comprising: performing at least one of decreasing a period of shift signal if the computer (computer 200 of fig 3) uses a first processing speed to process the pixel data or, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold) increasing the period of the shift signal if the computer uses a second processing speed to process the pixel data wherein the computer reads all of the pixel data of the scan line during the a period of the transfer signal and wherein the first processing speed is grater than the second processing seed (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and analog digital converter circuit 16 of fig 1, which has a determination of adjusting a shift signal via a timing chips 14 of fig 1, col.1, lines 36-40).

Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer

signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device (CCD image sensor 5 of fig 2) in the scanning apparatus, (image signal forming 12 of fig 1) the image extraction device (CCD image sensor 5 of fig 2) coupled to a computer (micro processor 10 of fig 2, is coupled to image sensor 5, col.2, lines 20-30); transmitting data for each pixel of a scan line to the computer via a shift signal (shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shit register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 10, Shinsky teaches the method (fig 3), where the method further adding the shift signal comprises a waiting time based at least in part on the period of the transfer signal (scanner 100, in connection with host computer 200, via timing chip 14, regulate a timing based on signal to be transferred between the two devices).

With respect to claim 11, Shinsky teaches the method (fig 3) wherein the exposure time is constant (the consistency of a brightness and contrast time is controlled by, controller 322 of fig 4A).

With respect to claim 12, Shinsky teaches the method (fig 3) wherein the exposure time is variable, (the variability of the brightness and contrast time is controlled by, controller 322 of fig 4A, in conjection with scanner and computer 200 via timing chips, by CPU 42 of fig 3).

With respect to claim 13 and 14, Shinsky teaches the method (fig 3) wherein the dumping (shifting) signal and transfer signal is enabled at a high level, (high brightness and contrast controller 322 of fig 4A, determined by controller 322 of fig 4A).

With respect to claim 15, Shinsky teaches the method (fig 3), wherein the image extraction device (100 of fig 3) includes a charge-coupled device (CCD 12 of fig 3).

With respect to claim 17, Shinsky (398) teaches a method of transferring image information from a scanning apparatus (a method of scanning image by scanner 10 of fig 1, and transferring to host computer 20 of fig 3), the method (as shown in fig 4A) Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting a shift signal from the image extraction device to a processor during the exposure time without storing the shift signal in a memory buffer wherein the shift signal comprises pixel data for each pixel in a scan line.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device (CCD image sensor 5 of fig 2) in the scanning apparatus, (image signal forming 12 of fig 1) the image extraction device (CCD image sensor 5 of fig 2) coupled to a computer (micro processor 10 of fig 2, is coupled to image sensor 5, col.2, lines 20-30); transmitting data for each pixel of a scan line to the computer via a shift signal (shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shit

register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal to an image extraction device in the scanning apparatus, the image extraction device coupled to a computer; transmitting data for each pixel of a scan line to the computer via a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 18, Shinsky teaches the method (as shown fig 4), wherein the shift signal comprises one or more reading times and one or more waiting times (the system of fig 4, comprises reading and waiting time which is determined by CPU 42 of fig 3, via timing device 14).

With respect to claim 19, Shinsky teaches the method (as shown fig 4), wherein duration of the one or more waiting times is determined by a reading speed of the computer (the reading time of the computer 200, corresponding to scanner time is determined by CPU 42 of fig 4).

With respect to claim 20, Shinsky teaches the method (as shown fig 4), wherein each period of the shift signal comprises data for a single pixel of the scan line and wherein the period of the shift signal is variable and responsive to a reading speed of the computer (the reading speed of scanner 100 of fig 1, and the processing speed of the host computer is synchronized by CPU 42, based on computer speed so that transfer signal and shift signal of the system can be controlled by host computer 200 of fig 3, col.2, line 20-25).

With respect to claim 21, Shinsky teaches the method (fig 3) wherein the exposure time is variable, (the variability of the brightness and contrast time is controlled by, controller 322 of fig 4A, in conjection with scanner and computer 200 via timing chips, by CPU 42 of fig 3).

With respect to claim 22, Shinsky teaches the method (fig 3), wherein the exposure time is defined by the transfer signal such that the exposure time begins when the transfer signal goes high, (the brightness and contrast time is controlled by, controller 322 of fig 4A, in conjection with scanner and computer 200 via timing chips, by CPU 42 of fig 3).

With respect to claim 23, Shinsky teaches the method (as shown in fig 3) an apparatus, comprising: a scanning device (scanner 100 of fig 3) including an image extraction device, (CCD image sensor 12 of fig 3) wherein the scanning device (fig 100 of fig 3). Although Shinsky (398) recognize a transfer signal or a shift signal, in a

broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal, a shift signal without storing the data in a memory buffer of the scanning apparatus.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device, (image signal forming 12 of fig 1, the image extraction device CCD image sensor 5 of fig 2, coupled to a micro processor 10 of fig 2, col.2, lines 20-30, and shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shit register [part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal, a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 24, Shinsky teaches the method (fig 3), further comprising

adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 25, Shinsky teaches the method (fig 3), the method according to claim 1, wherein the period of the transfer signal comprises a constant period of time, (brightness and contrast controller 322 of fig 4A).

With respect to claim 26, Shinsky teaches the method (fig 3) wherein the exposure time is variable (brightness and contrast controller 322 of fig 4A).

With respect to claim 27, Shinsky teaches the method (fig 3) wherein the dumping (shifting) signal is enabled at a high level, (the level of the brightness and contrast of the image has been controlled by controller 322 of fig 4A).

With respect to claim 28, a method of transferring image information from a scanning apparatus (a camera 10 of fig 1, has no buffer or any memory, see fig 1), the method (as shown in fig 4), decreasing a period of shift signal if the computer (computer 200 of fig 3) uses a first processing speed to process the pixel data or, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold) increasing the period of the shift signal if the computer uses a second

processing speed to process the pixel data wherein the computer reads all of the pixel data of the scan line during the a period of the transfer signal and wherein the first processing speed is grater than the second processing seed (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and analog digital converter circuit 16 of fig 1, which has a determination of adjusting a shift signal via a timing chips 14 of fig 1, col.1, lines 36-40).

With respect to claim 29, Shinsky teaches the method (as shown in fig 3) an apparatus, comprising: a scanning device (scanner 100 of fig 3) including an image extraction device, (CCD image sensor 12 of fig 3) wherein the scanning device (fig 100 of fig 3). Although Shinsky (398) recognize a transfer signal or a shift signal, in a broader sense, (as discussed above), Shinsky fails expressly to teach, providing a transfer signal, a shift signal without storing the data in a memory buffer of the scanning apparatus.

Makino (933) in the same are of image signal forming apparatus, (as shown in fig 1) teaches, providing a transfer signal to an image extraction device, (image signal forming 12 of fig 1, the image extraction device CCD image sensor 5 of fig 2, coupled to a micro processor 10 of fig 2, col.2, lines 20-30, and shift register [part of CCD 5], col.6, lines 8-11) without storing the data in a memory buffer (as shown in fig 2, no memory device is used to store data) of the scanning apparatus (image scanned by image sensor CCD 5, of fig 2, is transferred to microcomputer 10 of fig 2, via a shit register

[part of CCD device 5] and serves as the image signal of the first cycle, col.6, lines 5-15).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the imaging apparatus of Shinsky et al. (398) to include: providing a transfer signal, a shift signal without storing the data in a memory buffer of the scanning apparatus.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified imaging device of Shinsky by the teaching of Makino, the purpose doing so is that to avoid having a type of apparatus that is laborious and time consuming, which reduces a user's productivity.

With respect to claim 30, Shinsky teaches the apparatus (fig 3), further comprising adding a waiting time to shift signal based at least in part on the period of the transfer signal (scanner 10, communicate with computer 20 of via interface 102 of fig 3, a host-computer 200 of fig 3 controllers exposure or brightness and contrast by controller 322 of fig 4A, which scanner 10, includes timing chips for synchronization of shift signal and period of transfer signal).

With respect to claim 31, Shinsky teaches the apparatus (fig 3), the method according to claim 1, wherein the period of the transfer signal comprises a constant period of time, (brightness and contrast controller 322 of fig 4A).

With respect to claim 32, Shinsky teaches the apparatus (fig 3) wherein the exposure time is variable (brightness and contrast controller 322 of fig 4A).

With respect to claim 33, Shinsky teaches the apparatus (fig 3) wherein the dumping (shifting) signal is enabled at a high level, (the level of the brightness and contrast of the image has been controlled by controller 322 of fig 4A).

With respect to claim 34, the apparatus of transferring image information from a scanning apparatus (a camera 10 of fig 1, has no buffer or any memory, see fig 1), the method (as shown in fig 4), decreasing a period of shift signal if the computer (computer 200 of fig 3) uses a first processing speed to process the pixel data or, (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold) increasing the period of the shift signal if the computer uses a second processing speed to process the pixel data wherein the computer reads all of the pixel data of the scan line during the a period of the transfer signal and wherein the first processing speed is grater than the second processing seed (CCD 12 provides image data at a rate determined by the timing chips 14 of fig 1, via a sample and hold, and analog digital converter circuit 16 of fig 1, which has a determination of adjusting a shift signal via a timing chips 14 of fig 1, col.1, lines 36-40).

Response to the arguments

6. Applicant's arguments, filed 07/05/07, based on amended limitation, with respect to the rejection(s) of claim(s) 1-7 and 9-15 under U.S.C 102 (e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, This Office action made non- final.

Further, with regard to applicant's remarks of page 9 through 11, examiner has submitted new ground of rejection, as set forth in the above indicted Office action, and therefore, examiner's conclusion of obviousness in view of U.S.C 103 (a) is based upon proper reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 571-272-7472. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on 571-272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NW

09/07/07

AUNG S. MOE
SUPERVISORY PATENT EXAMINER

9/14/07